

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 01 DEC 2005

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Applicant's or agent's file reference JTS/P13184PC	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/05216	International filing date (day/month/year) 03.12.2003	Priority date (day/month/year) 03.12.2003
International Patent Classification (IPC) or both national classification and IPC F17D5/02		
Applicant O'HARA, Leonard		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- |      |                                     |  |
|------|-------------------------------------|--|
| I    | <input checked="" type="checkbox"/> | Basis of the opinion   |
| II   | <input type="checkbox"/>            | Priority   |
| III  | <input type="checkbox"/>            | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| IV   | <input type="checkbox"/>            | Lack of unity of invention   |
| V    | <input checked="" type="checkbox"/> | Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI   | <input type="checkbox"/>            | Certain documents cited  |
| VII  | <input type="checkbox"/>            | Certain defects in the international application   |
| VIII | <input type="checkbox"/>            | Certain observations on the international application  |

Date of submission of the demand  19.05.2005	Date of completion of this report  30.11.2005
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Nicol, B  Telephone No. +49 89 2399-8188  

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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB 03/05216

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

### Description, Pages

1-9 as originally filed

### Claims, Numbers

1-15 received on 19.05.2005 with letter of 19.05.2005

### Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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International application No. **PCT/GB 03/05216**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-15
Inventive step (IS)	Yes: Claims	
	No: Claims	1-15
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

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The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: US-A-3 547 301 (FFOOKS ROGER CAMBRIDGE) 15 December 1970 (1970-12-15)

**Re Item V**

**1. The present application does not meet the requirements of Article 33(1) PCT, because the subject-matter of independent claim 1 is not new in the sense of Article 33(1) and (2) PCT.**

Document D1 discloses in accordance with claim 1 (see fig. 1) a system suitable for use in indicating the ingress of water onto the exterior surface of a vessel inside a substantially continuous casing comprising:

- a deflector (at 11) formed and arranged for securing in use, to the underside of a vessel (4) inside a substantially continuous casing (3, 8) provided thereon, with
- a conduit (12) coupled to said deflector for leading water away from said exterior surface of vessel to
- a water-sensing indicator device (col.4, lines13-22), said indicator device having at least a signal output portion disposed externally of said casing for signalling the presence of water, said deflector being formed and arranged for intercepting water running along said exterior surface of the vessel inside the casing and diverting said water into said conduit, and said conduit and water-sensing indicator device being formed and arranged so that said water-sensing indicator device can sense substantially only water intercepted by said deflector.

Thus, a system comprising all the structural features of claim 1 is known from D1.

**2. The amendments filed with the International Bureau under Article 19(1) introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 19(2) PCT. The amendments concerned are the following: "substancially continuous".**

**3. The subject-matter of claim 15 is also not new in sense of Article 33(2) PCT, since this claim is a method claim, corresponding to device claim 1. Therefore, according to a corresponding reasoning as given for claim 1, the subject-matter of claim 15 is not new.**

**4. The application does not meet the requirements of Article 6 PCT, because claim 1 is not clear, because, in the expression "arranged for securing in use", it is not clear to what it is**

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secured.

**5. The subject-matter of dependent claims 2-14 is also not new (Article 33 (2) PCT), or does not seem to involve an inventive activity in the sense of Article 33(3) PCT, because the additional features of some claims are also shown in D1, or the slight constructional changes of the subject-matter of the other claims come within the scope of the customary practice followed by the person skilled in the art.**

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## CLAIMS

1. A water ingress detection system suitable for use in indicating the ingress of water onto the exterior surface of a pipe or vessel inside a substantially continuous casing, from  
5 outside said casing, which system comprises a deflector formed and arranged for securing in use, to the underside of a pipe or vessel inside a substantially continuous casing provided thereon, with a conduit coupled to said deflector for leading water away from said exterior surface of said pipe or vessel to  
10 a water-sensing indicator device, said indicator device having at least a signal output portion disposed externally of said casing for signalling the presence of water, said deflector being formed and arranged for intercepting water running along the said exterior surface of the pipe or vessel inside the  
15 casing and diverting said water into said conduit, and said conduit and water-sensing indicator device being formed and arranged so that said water-sensing indicator device can sense substantially only water intercepted by said deflector.
- 20 2. A system according to claim 1 wherein said deflector has a base portion, directly or indirectly, engagable by a tie device in use of the system, so as to be clamped against said pipe or vessel.
- 25 3. A system according to claim 2 wherein said deflector was at least one, at least part-annularly extending, flange element upstanding from said base portion.
4. A system according to claim 3 wherein said deflector  
30 comprises two spaced apart, said flange elements, with a saddle portion extending therebetween.
5. A system according to any one of claims 2 to 4 wherein at least one of said conduit and said indicator device is secured  
35 to said pipe or vessel by a support leg having a base portion,



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directly or indirectly, engagable by a tie device in use of the system, so as to be clamped against said pipe or vessel.

6. A system according to claim 2 wherein said deflector has an elongate strip portion upstanding from said base portion and having a distal end portion secured to at least one of said conduit and said indicator device, so as to support said conduit and indicator device from said pipe or vessel, in use of the system.

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7. A system according to any one of claims 1 to 6 wherein said conduit has an enlarged diameter mouth portion for receiving water deflected from said pipe or vessel by said deflector.

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8. A system according to any of claims 1 to 5 wherein said indicator device is releasably connected to said conduit.

9. A system according to any one of claims 1 to 8 wherein said indicator device comprises a water receiving chamber containing a float movable between lower and upper positions according to the water level inside said chamber.

10. A system according to claim 9 wherein said chamber has at least one window portion adjacent said upper position through which the dispositions of said float in a said upper position may be visually detected.

11. A system according to claim 9 or claim 10 wherein said indicator device includes a mechanical signalling device actuatable by movement of said float from its lower position to its upper position.

12. A system according to any one of claims 1 to 9 wherein said indicator device includes an electrical switch device actuatable by movement of said float from its lower position to

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its upper position, or by water level and coupled to an electronic signalling device.

13. A system according to claim 12 wherein said electronic signalling device is an audio, radio signal and/or visual signalling device.

14. A pipe or vessel provided with a substantially continuous casing in close contact with the exterior surface of said pipe or vessel, wherein is provided a water ingress detection system according to any one of claims 1 to 13.

15. A method of warning of the ingress of water onto the exterior surface of a pipe or vessel inside a substantially continuous casing from outside said substantially continuous casing, which method comprises the steps of:

a) ~~providing a detection system according to claim 1;~~ and  
b) securing the deflector to the underside of the exterior surface of the pipe or vessel, and the conduit and indicator device under the deflector for receiving water deflected thereby from the the exterior surface of underside of the pipe or vessel, with the indicator device in a primed condition for activation by the entry of a predetermined level of water to the indicator device.

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